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क्रेप पट्टियाँ — विशिष्टि  
( दूसरा पुनरीक्षण )

**Crepe Bandage — Specification**  
( Second Revision )

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## FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Technical Textiles for Medtech Applications Sectional Committee had been approved by the Textiles Division Council.

This standard was originally published in 1968 and subsequently revised in 1981. The present revision has been made in the light of experience gained since its last revision and to incorporate the following major changes:

- a) Requirement of material and tolerance for dimension have been modified.
- b) Requirement of manufacture, workmanship and finish have been modified.
- c) Requirement and test method of threads per stated length, weight per unit area and breaking load have been modified.
- d) Requirement of stretchability, recovery and loss of scouring have been excluded.
- e) Test method and requirement for elasticity, water soluble substances and ether soluble substances have been specified.
- f) Sampling and criteria for conformity has been specified.
- g) Marking and packing clause has been modified.

Crepe bandage consists of characteristic fabric of plain weave or needle loom weave, in which the warp threads are crepe-twisted for ensuring maximum elasticity.

Crepe bandage is used for dressing of varicose veins, weak ankles, legs, knees and wrists in case of sprains and other conditions in which light support is required.

The composition of the Committee responsible for the formulation of this standard is given in Annex D.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

# *Indian Standard*

## CREPE BANDAGE — SPECIFICATION

### ( *Second Revision* )

#### 1 SCOPE

This standard covers requirements pertaining to material, construction and performance of crepe bandage.

#### 2 REFERENCES

The standards given in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

#### 3 MATERIAL

Cotton or mixture of rayon and cotton shall be used in the manufacture of crepe bandage. In case of mixture, the quantity of rayon, when tested as per the method given in IS 1889 (Part 1) shall be not more than 50 percent. The bandage shall be free from cotton leaf and shell, neps, kitties and other objectionable impurities. It may be dyed flesh coloured with a suitable non-toxic dye.

#### 4 DIMENSIONS

**4.1** Width and length shall be as agreed to between the purchaser and the supplier. Recommended sizes are as follows:

| Width (cm)<br>( <i>Unstretched</i> )                       | Length (m)<br>( <i>Stretched</i> ) |
|------------------------------------------------------------|------------------------------------|
| $6 \pm 0.5$<br>$8 \pm 0.5$<br>$10 \pm 0.5$<br>$15 \pm 0.5$ | 4                                  |

**4.2** The stretched length of the crepe bandage shall be not less than 98 percent when determined by the method given in Annex B.

#### 5 MANUFACTURE

**5.1** The bandage shall be woven in plain weave with yarns as described below.

##### 5.1.1 Warp Yarns

Warp yarns shall consist of two fold cotton yarn with a finished count, after crepe-twisting, not finer than 23 tex X 2 (or 26s/2) and each thread containing not less than 15 folding turns per cm. They are arranged as two threads S-twist and two threads Z-twist, repeated. Turns per cm shall be determined by method given in IS 832 (Part 1).

##### 5.1.2 Weft Yarns

Weft yarns shall consist of cotton or rayon staple fibre, or cotton and rayon staple fibre spun together or rayon filament yarn, with a count not finer than 30 tex (or 20s).

NOTE — To convert universal count in tex to cotton count, divide 590.5 by the universal count.

**5.2** The selvages of the bandage shall be woven fast edges so as to ensure that the edges do not fray off and the stretchability and recovery are not affected.

**5.3** The bandage shall meet the performance requirements given in 8.

#### 6 WORKMANSIP AND FINISH

**6.1** The crepe bandages shall be clean and free from substances liable to cause tendering during storage. The product shall be free from toxic or harmful substances.

**6.2** The manufacture and preparation of the crepe bandages shall be conducted under proper hygienic conditions.

#### 7 CONDITIONING

**7.1** Each roll of crepe bandage selected for test shall be conditioned for a minimum period of 24 h at  $27 \pm 2$  °C and  $65 \pm 5$  percent relative humidity (*see* IS 196) prior to testing, and testing shall be in the same atmosphere. When the tests cannot be carried out in same atmosphere, the testing shall be commenced within two minutes of withdrawal of specimens from the conditioning atmosphere.

**7.2** The outer three layers of each roll shall be discarded before taking the specimen for test.

**8 PERFORMANCE REQUIREMENTS****8.1 Threads per Stated Length**

Ends: Not less than 170 per dm.

Picks: Not less than 78 per dm, determined on the fully stretched bandage.

The ends and picks for the bandage shall be determined by the method given in IS 14944.

**8.2 Weight per Unit Area**

The weight of the bandage in fully stretched conditions shall be not less than 160 g/m<sup>2</sup>. The weight per unit area of the bandage shall be determined by the method given in IS 14944.

**8.3 Elasticity**

The regain length shall not be more than 80 percent of the fully stretched length when tested by the method given in IS 14944.

**8.4 Chemical Neutrality**

The bandage shall be held chemically neutral if the pH value of the aqueous extract is 6 to 8.5 when determined as per method given in IS 1390.

**8.5 Breaking Load**

It shall be minimum 150 N (15 kgf) on a test specimen of 20 cm test length and not greater than 5 cm in width when tested by the method given in IS 14944.

**8.6 Water Soluble Substances**

The water soluble substances shall not be more than 1 percent when tested in accordance with IS 14944.

**8.7 Ether Soluble Substances**

The ether soluble substances shall not be more than 1 percent when tested in accordance with IS 14944.

**9 MARKING**

**9.1** Each package of crepe bandage shall be legibly and indelibly marked with the following information:

- Name and trade-mark of the manufacturer;
- Width and stretched length;
- Batch/Lot number;
- Colour, if any;
- Month and year of manufacture; and
- Any other statutory requirement as required by the law in force or as agreed between the buyer and the seller.

**9.2 BIS Certification Marking**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

**10 SAMPLING AND CRITERIA FOR CONFORMITY****10.1 Lot**

All the crepe bandages of the same material, shape and dimension produced under similar conditions of manufacture shall constitute a lot.

**10.1.1** Each lot shall be tested separately for ascertaining the conformity of the lot.

**10.1.2** The number of bandages to be selected from the lot shall depend on the size of the lot and shall be in accordance with col 1, 2 and 4 of Table 1.

**10.1.3** These bandages shall be selected at random from the lot. For this purpose, reference may be made to IS 4905.

**Table 1 Number of Crepe Bandages to be Selected**

( Clauses 10.1.2, 10.2.1, 10.2.1.1, 10.2.2 and 10.2.3 )

| S.No | Lot Size        | Non-destructive Testing        |                   | Destructive Testing            |                      |
|------|-----------------|--------------------------------|-------------------|--------------------------------|----------------------|
|      |                 | No. of Bandages to be Selected | Acceptance Number | No. of Bandages to be Selected | Acceptance Number    |
|      | <i>N</i>        | <i>n</i>                       | <i>a</i>          | <i>n<sub>1</sub></i>           | <i>a<sub>1</sub></i> |
| (1)  | (2)             | (3)                            | (4)               | (5)                            | (6)                  |
| i)   | Up to 280       | 13*                            | 1                 | 8                              | 0                    |
| ii)  | 281 to 500      | 20                             | 2                 | 8                              | 0                    |
| iii) | 501 to 1 200    | 32                             | 3                 | 13                             | 0                    |
| iv)  | 1 201 to 3 200  | 50                             | 5                 | 13                             | 0                    |
| v)   | 3 201 to 1 0000 | 80                             | 7                 | 20                             | 1                    |

\* or lot size when less than 13

**10.2 Number of Tests and Criteria for Conformity**

**10.2.1** All the bandages selected as per column 2 of Table 1 shall be examined for workmanship and finish (6.1).

**10.2.1.1** Any bandage failing in one or more of the above requirements shall be termed as defective. The lot shall be considered as conforming to the above requirements if the total number of defectives found in the sample is less than or equal to the acceptance number given in column 3 of Table 1. Otherwise, the lot shall be rejected.

**10.2.2** Out of the sample already found satisfactory according to **10.2.1.1**, a sub-sample as per column 4 of Table 1 shall be taken. This sub-sample shall be further tested for the remaining requirements.

**10.2.3** The lot shall be considered as conforming to the requirements of the specification if the total number of defective bandages found in the sample (as per **10.2.2**) is less than or equal to the acceptance number as given in column 5 of Table 1.

**11 PACKING**

The bandage shall be rolled and packed suitably to prevent contamination from dust. The crepe bandages shall be packed securely so as to allow normal handling and transport without tearing and exposing the contents. Details of the packing shall be as agreed to between the buyer and the seller. Packaging of the product should be, such as to maintain the integrity of the product throughout its shelf life.

**ANNEX A**

( Clause 2 )

**LIST OF REFERRED INDIAN STANDARDS**

| <i>IS No.</i>       | <i>Title</i>                                                                                         | <i>IS No.</i>        | <i>Title</i>                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 196 : 1966          | Atmospheric conditions for testing                                                                   | 1889 (Part 1) : 1976 | Method for quantitative chemical analysis of binary mixtures of regenerated cellulose fibres and cotton: Part 1 Sodium zincate method ( <i>first revision</i> ) |
| 832 (Part 1) : 2011 | Textiles — Determination of twist in yarns: Part 1 Direct counting method ( <i>second revision</i> ) | 4905 : 2015          | Random sampling and randomization procedures ( <i>first revision</i> )                                                                                          |
| 1390 : 2019         | Textiles — Determination of pH of aqueous extracts ( <i>second revision</i> )                        | 14944 : 2001         | Surgical dressings — Methods of test                                                                                                                            |

**ANNEX B**

( Clause 4.2 )

**METHOD FOR DETERMINATION OF LENGTH OF THE BANDAGE****A-1 TEST SPECIMEN**

For the purpose of this test, all rolls in the test sample constitute the test specimen.

**A-2 PROCEDURE**

Unroll the bandage and fix a convenient portion about 5 cm at each end in suitable grips. Measure the length of the unstretched bandage. Stretch the bandage by applying a load of 1 kgf/cm of width. After one minute, measure the length of the stretched bandage between the two grips.

## ANNEX C

( Foreword )

## COMMITTEE COMPOSITION

Technical Textiles for Medtech Applications, TXD 36

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